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DATE: November 17, 1997

## TO:

Name: Examiner J. CooneyFax No.: 703-308-4556Location: Art Unit 1207 - USPTO

## FROM:

Name: D. OrtizLocation: Plymouth Meeting, PARECEIVED  
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Re: Serial No. 08/702,625 filed 23 August 1996  
Attorney's Docket: H 1215 PCT/US

- Response Under 37 C.F.R. 1.116 (4 pages)

#8/C-  
PATENT  
Docket H 1215 PCT/US  
Response under 37 CFR 1.116  
Expedited Procedure  
Examining Group 1207

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re: Application of Kluth et al.

Serial No. 08/702,625 Examiner: J. Cooney  
Filed: 08/23/96 Art Unit: 1207  
TITLE: FOAM PLASTIC FROM DISPOSABLE PRESSURIZED  
CONTAINERS

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**RESPONSE UNDER 37 C.F.R. 1.116**

Assistant Commissioner of Patents  
Box AF  
Washington, DC 20231

Sir:

In response to the Official Action of September 16, 1997, Applicants respectfully request that the rejection be reconsidered and withdrawn.

Before discussing the rejection over the prior art, Applicants deem it prudent to set forth what they consider to be their invention.

Applicants' invention is a system for generating a polyurethane foam from disposable pressurized containers in which the residual amount of diisocyanate monomers in the contents of the pressurized container, after use, is sufficiently low that the used containers can be disposed of in a normal manner and not as a

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hazardous waste.

The specification discloses several methods by which this can be accomplished such as introducing catalysts or reactants into the container to react with the monomers or by utilizing a prepolymer which has a low content of diisocyanate monomer.

The application is also directed to compositions with a low diisocyanate monomer content which can be used to provide the polyurethane foam. The system and composition of the invention are not obvious over the reference of record, Markusch et al. (U.S. 4,413,111).

Claims 15-68 stand rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Markusch et al. Applicants respectfully submit the Markusch et al. neither teaches nor suggests the present invention.

Markusch et al. is directed to a method for preparing an isocyanate terminated prepolymer with low free monomer content. Markusch et al. teaches that the prepolymer is useful in a one-component, moisture-cure system or as the isocyanate component in two-component polyurethanes. The prepolymers are useful in various systems as coatings, laminants, adhesives, flocculants and elastomer (col. 8, lines 53-55). There is no teaching or suggestion in Markusch et al. that the composition can be used to form a foamed polymer.

Since there is neither teaching nor suggestion to form a foamed polymer, there is no teaching or suggestion to provide a composition containing a blowing agent or to provide a composition in a disposable pressurized container for producing a foam.

Markusch et al. does not disclose the limits of the NCO content of the prepolymer. However, all of the prepolymers of the examples (not comparative example) disclose prepolymers with an NCO content below 2% by weight of the prepolymer, which includes the NCO groups associated with the unreacted monomer. Clearly there is no teaching or suggestion of a prepolymer with an NCO

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content of from 8 to 30% by weight of the prepolymer and less than 5% by weight of free monomer.

Applicants submit that it is well known to one skilled in the art that NCO terminated prepolymers with an NCO content below 2% by weight are not useful for forming foamed polymers. The cure rate is slow and the foam collapses before the polymer foam is sufficiently hardened to be self-supporting. Applicants respectfully submit that there is neither teaching nor suggestion of a prepolymer having from 8% to 30% by weight of NCO groups and less than 5% by weight unreacted isocyanate monomer in the Markusch et al. reference nor any suggestion of the usefulness of such a composition.

The Examiner states:

"Accordingly, it would have been obvious for one having ordinary skill in the art to have utilized blowing agents in the preparations of Markusch et al., which are well known conventional additives in the urethane arts, for the purpose of enabling and imparting expandability in the preparations realized in order to arrive at the products and articles of applicants' claims in the absence of a showing of new or unexpected results."

Applicants submit that since the prepolymers of Markusch et al. have a free NCO content below 2% by weight and one skilled in the art would understand that prepolymers with less than 2% by weight free NCO groups would not be useful for forming foamed polymers, one skilled in the art would not include blowing agents in the prepolymers of Markusch et al. since foamed polymers could not be successfully formed.

The Examiner states:

"...storing polyurethane forming reactants in pressurized vessels is well known in the art for storage purposes..."

Applicants submit that storing polyurethane forming reactants in pressurized vessels is an unusual method for storing these materials unless they are accompanied by materials with a low boiling point or high pressure gases. Since none of these materials are present in the Markusch et al. compositions, Applicants

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submit that one skilled in the art would not bear the unnecessary expense to store the Markusch et al. prepolymer in a pressurized vessel.

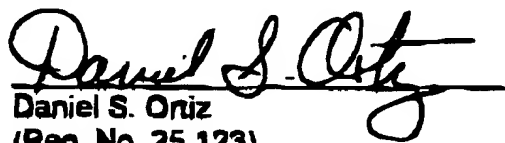
At page 3 the Examiner states:

"Further, Markusch et al.'s disclosure is not limited to the low isocyanate contents pointed to by applicants'. A limited teaching of one, two, or three examples of a references does not derogate from what it teaches as a whole which in the instant case is NCO content values which are inclusive of those claimed by applicants."

Applicants submit that the Examiner's statement is mere speculation and cannot be the grounds for a rejection. The Examiner has not pointed to any portion of the specification which teaches or suggests that a free NCO content outside of what is disclosed in the examples is intended. All of the examples (except comparative example) presented in Markusch et al. have a free NCO content including the unreacted isocyanate monomer of less than 2% by weight of the prepolymer since no other statement in regard to free NCO content appears in the specification. Applicants submit that one skilled in the art must look to the examples to determine the NCO content for the Markusch et al. prepolymers. Applicants submit that less than 2% by weight free NCO groups in all of the examples would not teach or suggest 8% to 30% by weight free NCO groups in the prepolymer. Applicants submit that the rejection is based in conjecture and speculation and is not proper.

In view of the above discussion and the conjecture and speculation of the Examiner with no factual basis, Applicants submit that the rejection is improper and request that it be reconsidered and withdrawn.

Respectfully submitted,



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